

IN THE CLAIMS

1. – 6. (previously canceled)

7. – 12. (canceled without prejudice)

13. (new) A method of fabricating an apparatus, the method comprising:
 fabricating a bottom electrode layer on a substrate, the bottom electrode layer
 having an opening;
 fabricating a piezoelectric layer on the bottom electrode layer and on the substrate;
 fabricating a top electrode layer on the piezoelectric layer and on the substrate;
 wherein overlapping portions of the bottom electrode layer, the piezoelectric layer,
 and the top electrode layer forming a resonator; and
 fabricating a bonding pad on the bottom electrode layer, the bonding pad in contact
 with the substrate through the opening of the bottom electrode, the bonding
 pad and the substrate forming a diode.
14. (new) The method recited in claim 13 wherein the top electrode layer has an
 opening; and further comprising a step of fabricating a bonding pad on the top
 electrode layer, the bonding pad in contact with the substrate through the opening of
 the top electrode, the bonding pad and the substrate forming a diode.
15. (new) The method recited in claim 13 further comprising a step of fabricating a
 seed layer under the bottom electrode layer.
16. (new) The method recited in claim 16 wherein the seed layer having an opening
 aligned with the opening of the bottom electrode allowing the bonding pad to
 contact the substrate through the opening.

17. (new) The method recited in claim 13 wherein said bonding pad forms a Schottky diode with the substrate.
18. (new) The method recited in claim 13 wherein said bonding pad comprises conductor selected from a group consisting of gold, nickel, and chrome.
19. (new) The method recited in claim 13 wherein the piezoelectric layer comprises Aluminum Nitride and said bottom and top electrode layers comprises Molybdenum.
20. (new) The method recited in claim 13 wherein the bottom electrode includes a plurality of openings through which the bonding pad contacts the substrate.

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